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## MAKING BOTANY ATTRACTIVE<sup>1</sup>

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Some of the ways we have adopted for making botany attractive in the Joliet Township High School are as follows:

The study is approached from what might be called the natural history side. The plants are studied in the laboratory without the use of a text and the questions are such as to require a careful study of the materials for their answers. The "verification method" is carefully avoided.

Considerable freedom is allowed in the laboratory. Pupils are permitted to move about to examine specimens and to discuss their work with other pupils. No requirement is made as to the amount of time a pupil must put upon the subject, other than to insist that he must keep up with the class and must be present at every laboratory period unless he is in advance of the class. Pupils who complete their work in advance are often excused when they have other lessons to prepare or examinations to take.

The better students are encouraged to put in their spare time in the laboratory, whether it happens to be before or after school or during study periods during the day. Such pupils are allowed to select additional subjects for study and if completed according to requirements are given additional credit.

The notebook is written up in the laboratory before any reference work or recitations have been assigned, the object being to have the notebook represent only what the pupil has learned in the laboratory for himself. Numerous drawings, made without reference to a book, are also required.

Examinations come some time after the work in a given subject has been completed and always come at the most unex-

<sup>1</sup> Abstract of a paper read at the Twenty-first Educational Conference of the Academies and High Schools in Relations with the University of Chicago, November, 1908.

pected times, the aim being to discover how much of the work the pupil has retained. In such examinations, all catch questions are avoided and only such information called for as the pupil may reasonably be expected to possess.

Field trips are frequent, even in cold weather. Some trips are simply in quest of material and are made without an outline. Pupils are required to collect their own material and to note its relation to its surroundings and habitat. The trips with outlines are for the study of some phase of botany that cannot well be studied indoors. Two trips to Chicago are made each year, one in winter, to the greenhouses, the other in spring to the Field Museum.

Our pupils maintain a botanical club of more than fifty members, officered by the pupils themselves. To this club no pupil may be admitted who has not completed at least one semester's work in botany with an average of eighty-five. Since membership in the club is a valued distinction, the effect of the club upon work in the classes is excellent. Not only has the number of students taking botany steadily increased for some years, but the proportion of boys is constantly growing, being now about 45 per cent. of the whole number.